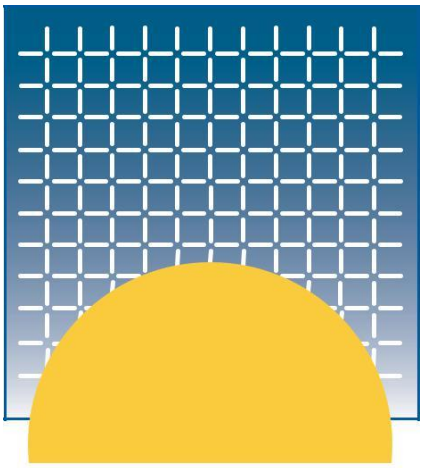
PIPENET®

LEADING THE WAY

IN FLUID FLOW ANALYSIS



PIPENET®

LEADING THE WAY IN FLUID FLOW ANALYSIS

*What is **PIPENET**?*

PIPENET is the LEADER for rapid flow analysis of duct and pipe networks. The three modules of **PIPENET** are widely used across the globe, in the Oil and Gas, LNG, Petrochemical, Power, Fire Protection and Shipbuilding industries by leading companies requiring excellence, safety and time efficiency.

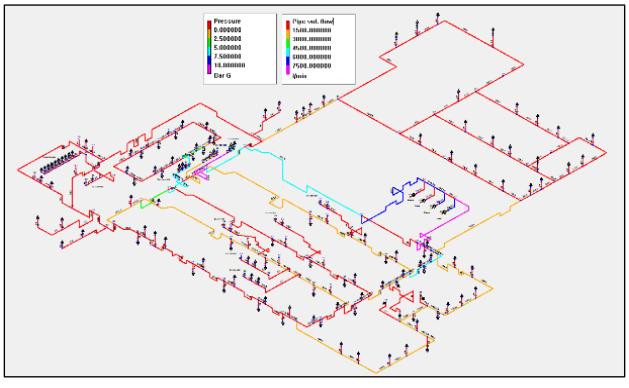
*Why use **PIPENET**?*

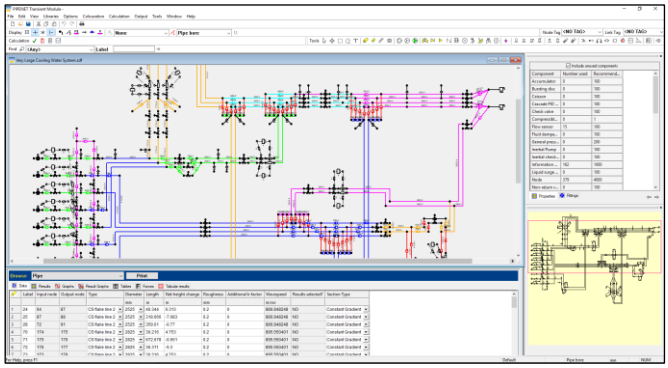
- **PIPENET** sets the standard – leads the way in flow analysis – the best!
- **PIPENET** starts at the design phase. It performs pipe sizing and pump selection calculations in the steady state. From there it goes all the way through dynamic analysis to computing hydraulic loads for pipe stress analysis and support design, with several optional stages depending on exactly what the user requires.
- **PIPENET** has been in use across the globe for over 35 years, by companies large and small, including many multinationals which standardise on **PIPENET** and specify that it must be used by subcontractors.
- **PIPENET** is flexible, offers a wide selection of units, user-defined pipe schedules, fittings libraries and pump characteristics.
- **PIPENET** is constantly being updated and enhanced, putting us at the forefront of pipework and pipeline design technology.
- **SUNRISE SYSTEMS** is accredited with ISO 9001.

***PIPENET** – Which Module do I need?*

PIPENET has three modules which work independently:

PIPENET Transient Module is ideal for analysing dynamic flow events like pressure surge, water hammer, steam hammer, modelling control systems and calculating hydraulic transient forces for pipe stress analysis.





PIPENET Spray/Sprinkler Module sets the global standard for the design of fire protection systems, especially in critical applications like FPSOs, offshore platforms, petrochemical and power plants. This module can be used for designing a wide range of fire protection systems: sprinkler, deluge, ringmain, and foam solution systems.

PIPENET Standard Module is the perfect tool for solving general steady-state flow problems with liquids, gases or steam – in pipe and duct networks – cooling water systems, steam distribution systems, HVAC systems and others.

***PIPENET** – What support will I get?*

PIPENET is supported by a rapid-response team based in the UK, who will talk you through any difficulties you may have. In addition, **PIPENET** is supported by Authorised Marketing Partners and Training Consultants across the globe. We offer a cost-effective maintenance, updates and support programme which will keep you up to date, ensuring that you always have the latest technology at your fingertips.

***PIPENET** – GUI Highlights*

- Colours – component coded according to data/results/user defined rules
- Bird's eye view, unlimited undo/redo, tool tips, pan & zoom, font sizes
- Isometric/orthogonal schematic grids, automatic creation of ranges with multiple items
- Tabulated data with copy/paste from and to virtually any spreadsheet, global edit, sorting
- Extensive online help, online tutorials, user manuals and training manuals
- Import underlays in .dxf and .emf formats
- Copy/paste of sub-networks to rapidly build up a large system
- Extensive range of output formats including HPGL/2 for plotting

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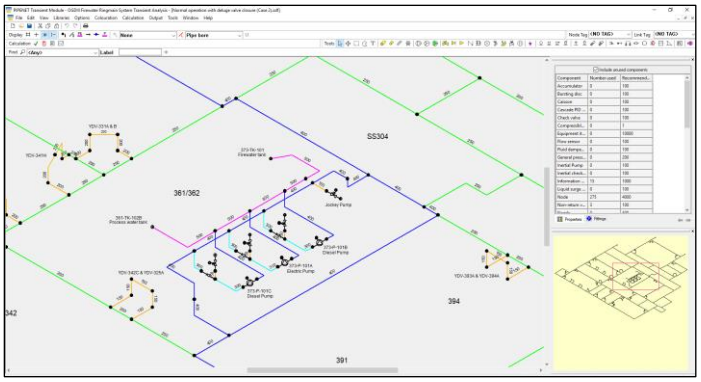
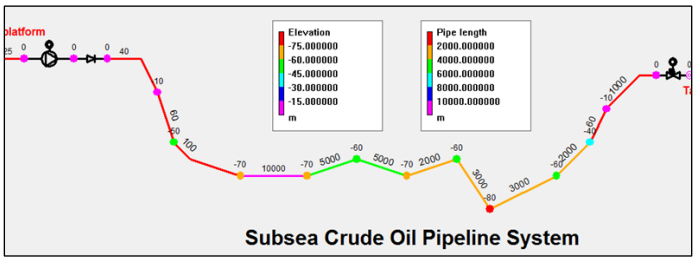
TRANSIENT MODULE

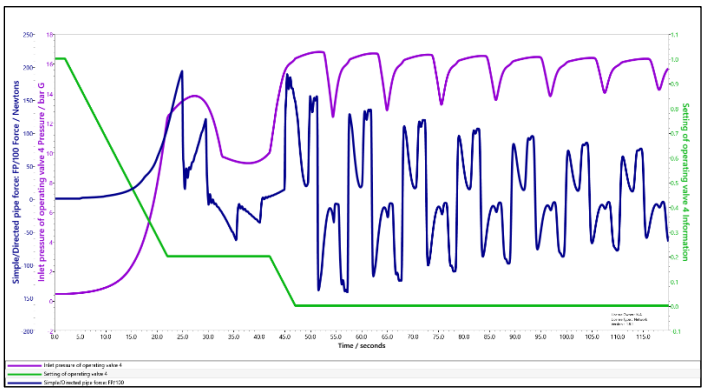
PIPENET Transient Module is a powerful tool for rigorous dynamic analysis that pinpoints problem areas and suggests potential solutions. This module is ideal for analysing such transient flow problems as pressure surge, water hammer, steam hammer, modelling control systems and calculating hydraulic transient forces for pipe stress analysis.



Applications of **PIPENET Transient Module**:

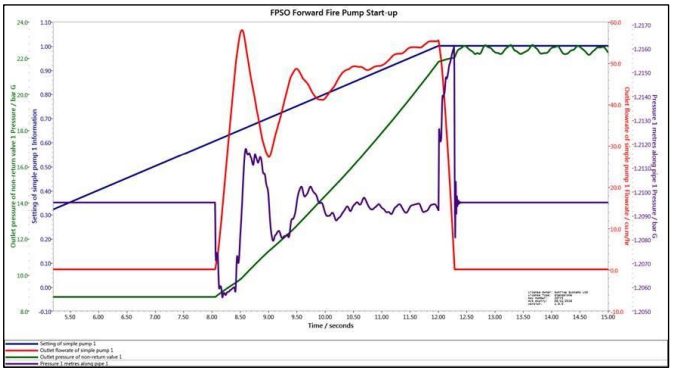
- Loading/unloading systems analysis
- Cooling water systems
- Firewater systems surge analysis
- Water injection systems studies
- Subsea and cross-country pipelines
- Steam hammer



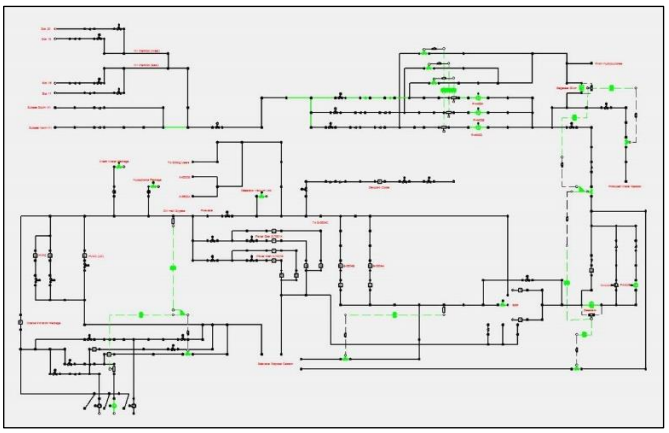


PIPENET Transient Module is a perfect tool for modelling:

- Pipes – rigorous and short, mile post data
- Valves – operating, surge relief, control, non-return, swing check, regulating, bursting disk, inertial check
- Pumps – simple, inertial and turbo
- Tanks – simple, accumulator, surge, receiving vessel
- Vacuum breakers – with or without hysteresis



- Control systems – pressure, flow, differential pressure sensors, PID control, transfer functions, switches
- Caissons – partially filled pipes
- Specifications – extensive range of boundary conditions
- Hydraulic transient forces – dynamic/total, unbalanced/complex forces



PIPENET Transient Module Features:

- Output – graphical, tabular and forces output, snap shot, dynamic movie, min/max tables, pressure envelopes, hydraulic grade lines
- Initial state – steady state, user-defined, run-in time, final steady state
- Cavitation modelling – simple cavitation, cavity separation with elevation effect
- Time step – fixed/variable, software/user-defined
- Force-time history neutral file output for reading by pipe stress analysis and finite element programs

PIPENET Transient Module professionally performs dynamic analysis with ease and accuracy.

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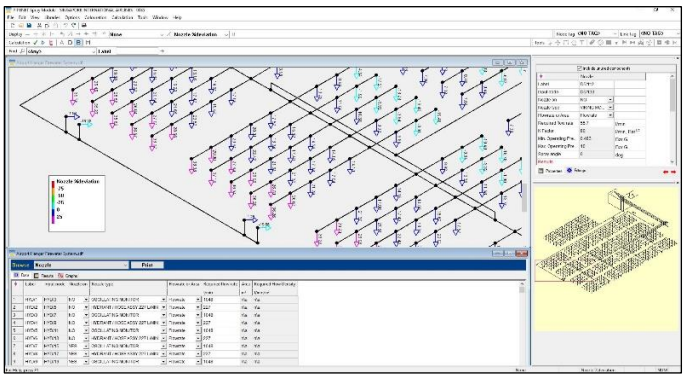
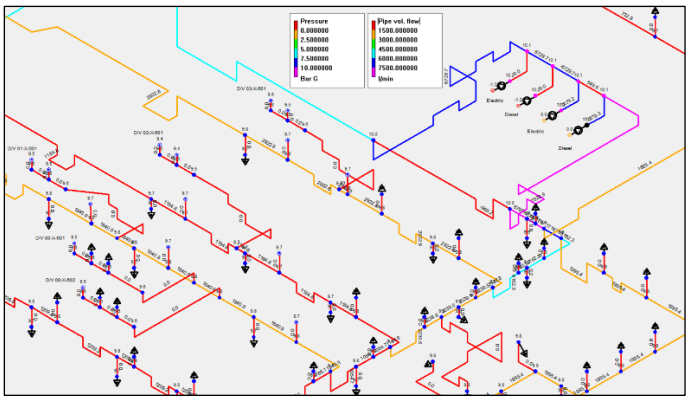
SPRAY/SPRINKLER MODULE

PIPENET Spray/Sprinkler Module is the global leader and standard software for hydraulic analysis of firewater systems in compliance with NFPA13, NFPA15 and NFPA16 rules. This module addresses the hydraulic analysis requirements of virtually all national and international standards. Ideal for the design of systems used in critical applications such as offshore platforms, FPSO's, petrochemical plants, power plants, refineries, ships, and airport hangars.



Applications of **PIPENET Spray/Sprinkler Module**:

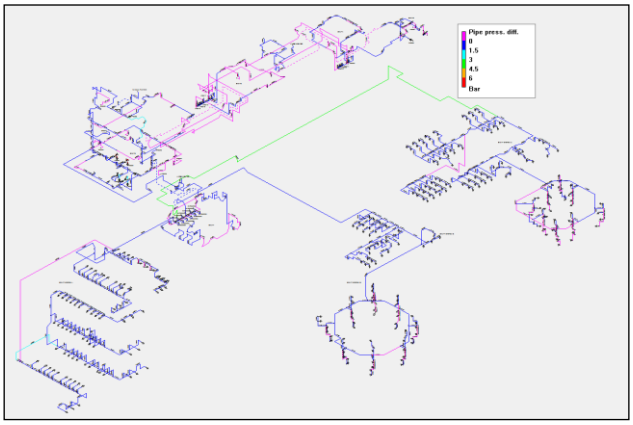
- Deluge systems
- Firewater ringmain systems
- Sprinkler systems
- Foam solution systems
- Foam concentrate systems
- Spray mist systems



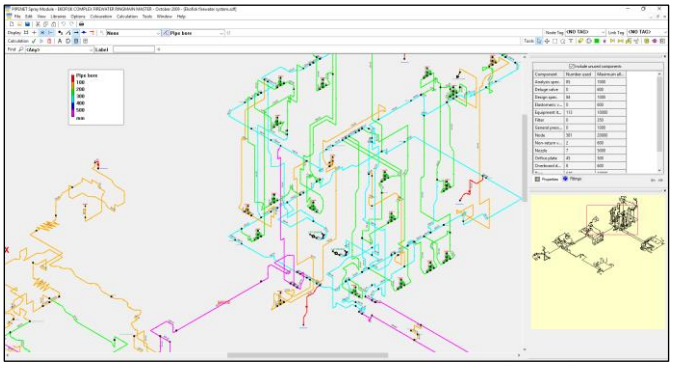
PIPENET Spray/Sprinkler Module is the ideal modelling tool for pipes, nozzles, fittings, overboard dump valves, nonreturn valves, orifice plates, equipment items.

PIPENET Spray/Sprinkler Module Features:

- Input – isometric or orthogonal schematic input, tabular input including copy and paste from spreadsheets
- Underlay – import of drawings for use as underlays for schematic drawings
- Output – easy, readable output as tables, or display of data and results on the schematic
- Choice of calculation modes – hydraulically most remote nozzle, inlet pressure/flowrate
- Orifice plates – diameter to be calculated or specified
- Multiple pump scenarios
- Multiple fire scenarios
- Block/Break of pipes to simulate closed valves and burst pipes
- Pumps – sizing of pumps or user-defined vendor's pump curves



- Pipe schedules – built-in and user-defined pipe schedules, lined pipes, multiple pipe schedules in one system
- Overboard dump and minimum flow valves
- User defined libraries of pipe schedules, nozzles, deluge valves and linings
- Choice of Hazen-Williams and Darcy-Weisbach equations
- Choice of pipe or node elevations



PIPENET Spray/Sprinkler Module is the fire protection professional's first choice.

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STANDARD MODULE

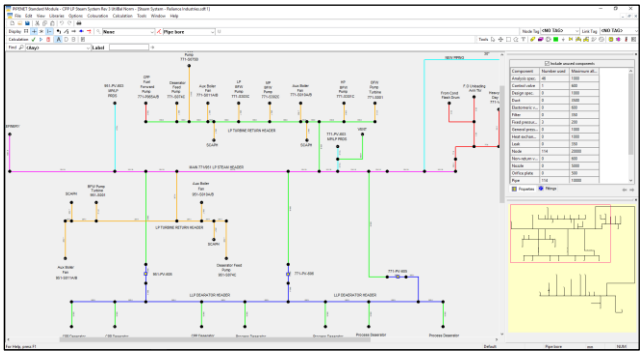
PIPENET Standard Module is an ideal software tool for steady state flow analysis of pipe networks with compressible and incompressible fluids – liquids, gases and steam, including piping, HVAC and ducting systems.

Applications of **PIPENET Standard Module**:

- Cooling water systems
- Steam distribution systems
- Ventilation systems
- Water distribution systems
- Fuel gas systems
- Chilled water systems
- Ventilation systems

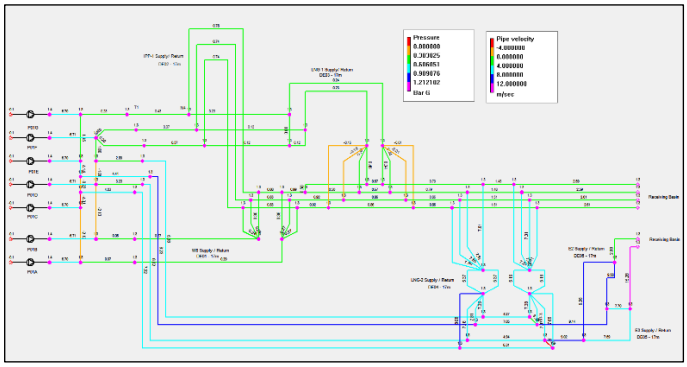
PIPENET Standard Module Models:

Pipes, ducts, fittings, pumps, fans, check valves, control valves, nozzles, filters, orifice plates, fixed pressure drops.



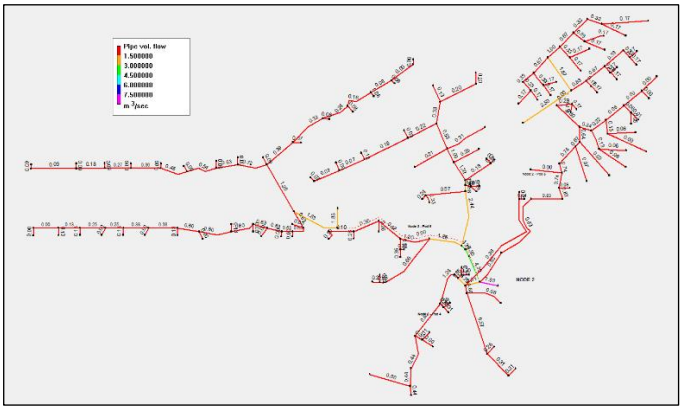
PIPENET Standard Module Features:

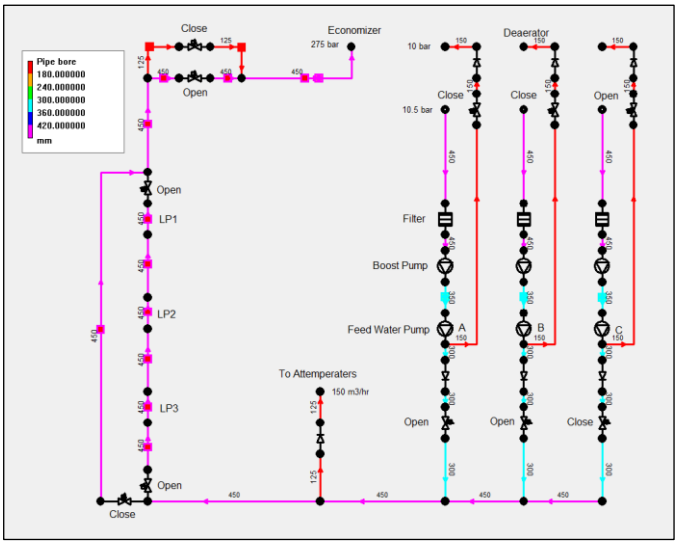
- Input – isometric or orthogonal schematic input, tabular input including copy and paste from spreadsheets
- Underlay – import of drawings for use as underlays for schematic drawings
- Output – easy, readable output as tables, or display of data and results on the schematic
- Extensive library of fittings and user-defined fittings, using Crane data
- Powerful pipe sizing capability
- Orifice plates – diameter to be calculated or specified
- Multiple pump scenarios
- Block/Break of pipes to simulate closed valves and burst pipes
- Pumps – sizing of pumps or user-defined vendor's pump curves
- Pipe schedules – extensive built-in and user-defined pipe schedules
- Checking for cavitation, correction for ambient pressure decrease with height, calculation of hydraulic gradients and modelling of leaks



- Control valves – pressure, flow, differential and set position
- Variable properties and temperatures
- Choice of pipe or node elevations

PIPENET is the solution in design optimisation and setting standards in safety.





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QUALITY ASSURED
BS EN ISO 9001
QUAY AUDIT LTD

ASCB(E)
Accrediting
Certifying
Bodies.

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